In the claims:

For the Examiner's convenience, all pending claims are presented below with changes shown.

1. (Currently Amended) A computer system comprising:

a central processing unit (CPU); and

a cache memory, coupled to the CPU, including:

a main cache having a plurality of cache lines, each of the plurality of cache lines being ~~that are~~ compressible to form compressed cache lines to store additional data; and

a plurality of storage pools to hold a segment of the additional data for a compressed cache line ~~one or more of the plurality of cache lines that are to be compressed~~.

2. (Original) The computer system of claim 1 wherein each of the plurality of storage pools include a plurality of fixed width storage fields.

3. (Original) The computer system of claim 1 wherein the plurality of cache lines are included within a plurality of sets.

4. (Original) The computer system of claim 3 wherein a storage pool is allocated to each of the plurality of sets.

5. (Original) The computer system of claim 4 wherein an indicator is associated with each storage field of a storage pool to indicate a line within one of the plurality of sets to which a storage field is assigned.

6. (Currently Amended) The computer system of claim 3 wherein multiple storage fields within each storage pool is allocated a line within one of the plurality of sets.

7. (Original) The computer system of claim 6 wherein each storage field mapped to one of the plurality of sets is sorted according to a logical ordering.

8. (Original) The computer system of claim 3 wherein a storage pool is shared by two or more of the plurality of sets.

9. (Original) The computer system of claim 8 wherein an indicator is associated with each line of a storage pool to indicate which of the plurality of sets to which a storage field is assigned.

10. (Original) The computer system of claim 1 further comprising a cache controller coupled to the cache memory.

11. (Original) The computer system of claim 10 wherein the cache controller accesses the cache lines and storage pools in parallel.

12. (Original) The computer system of claim 11 wherein accessing the cache lines and storage pools in parallel comprises the cache controller simultaneously dispatching set bits to the cache lines and storage pools.

13. (Currently Amended) The computer system of claim 10 ~~11~~ wherein the cache controller accesses the cache lines and storage pools serially.

14. (Original) The computer system of claim 3 wherein a storage pool is shared by all of the plurality of sets.

15. (Currently Amended) A cache memory comprising:

main cache having a plurality of cache lines, each of the plurality of cache lines being ~~that are~~ compressible to form compressed cache lines to store additional data; and

a plurality of storage pools to hold a segment of the additional data for a compressed cache line ~~one or more of the plurality of cache lines that are to be compressed~~.

16. (Original) The cache memory of claim 15 wherein each of the plurality of storage pools include a plurality of fixed width storage fields.

17. (Original) The cache memory of claim 15 wherein the plurality of cache lines are included within a plurality of sets.

18. (Original) The cache memory of claim 17 wherein a storage pool is allocated to each of the plurality of sets.

19. (Original) The cache memory of claim 18 wherein an indicator is associated with each storage field of a storage pool to indicate a line within one of the plurality of sets to which a storage field is assigned.

20. (Original) The cache memory of claim 17 wherein multiple storage fields within each storage pool is allocated a line within one of the plurality of sets.

21. (Original) The cache memory of claim 17 wherein a storage pool is shared by two or more of the plurality of sets.

22. (Original) The cache memory of claim 21 wherein an indicator is associated with each line of a storage pool to indicate which of the plurality of sets to which a storage field is assigned.

23. (Original) The cache memory of claim 17 wherein a storage pool is shared by all of the plurality of sets.

24. (Currently Amended) A method comprising:

compressing one or more of a plurality of cache lines <u>to form one or more compressed cache lines</u> store additional data by:

storing a first component of the data in a main cache; and

storing a second component of the data in one or more of a plurality of storage pools.

25. (Original) The method of claim 24 wherein the plurality of cache lines are included within a plurality of sets.

26. (Original) The method of claim 25 further comprising allocating a storage pool to each of the plurality of sets.

27. (Original) The method of claim 26 further comprising associating an indicator with each storage field of a storage pool to indicate a line within one of the plurality of sets to which a storage field is assigned.

28. (Original) The method of claim 25 further comprising allocating a storage pool to a line within one of the plurality of sets.

29. (Original) The method of claim 28 further comprising mapping each storage field to one of the plurality of sets.

30. (Original) The method of claim 29 further comprising associating an indicator with each line of a storage pool to indicate which of the plurality of sets to which a storage field is assigned.

31. (Currently Amended) A computer system comprising:

a central processing unit (CPU); and

a cache memory, coupled to the CPU, including:

main cache having a plurality of cache lines, each of the plurality of cache lines being ~~that are~~ compressible to form compressed cache lines to store additional data; and

a plurality of storage pools to hold a segment of the additional data for a compressed cache line; ~~one or more of the plurality of cache lines that are to be compressed~~ and

a main memory device coupled to the CPU.

32. (Original) The computer system of claim 31 wherein each of the plurality of storage pools include a plurality of fixed width storage fields.

33. (Original) The computer system of claim 31 wherein the plurality of cache lines are included within a plurality of sets.